

# Using Technology to Conduct Questionnaire Evaluations with Hard to Reach Populations

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QUEST  
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# National Agricultural Statistics Service

- Conducts surveys about all facets of agricultural including production, economics, land values, and prices
- Collects data from farm and ranch operators
- Farm operations are considered establishments, but many more closely resemble households
- Rural population



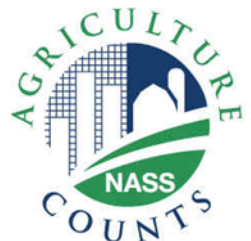
# Challenges to Questionnaire Evaluation at NASS

- Rural population makes travel to research lab difficult
- Geographical dispersion makes travel to respondents difficult
- Extremely costly to conduct interviews
- When travel is possible, work is often done in a field, barn, or on a tractor!



# Current Questionnaire Evaluation

- Limited questionnaire evaluation
- Quantitative methods
- Expert review
- Cognitive interviewing
  - Very few studies, most using small samples
  - Field enumerators used for CIs
    - Minimal training in questionnaire evaluation techniques
    - Very good at getting an answer to questions, but not as good at evaluating the actual questions



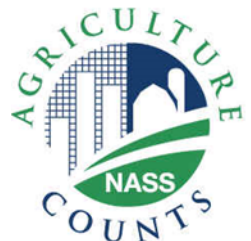
# Expanding Questionnaire Evaluation

- Exploring alternative ways to conduct questionnaire evaluation
- Increased input from respondents
  - Use of technology (iPads, CARI) to perform behavior coding
  - Telephone cognitive interviewing



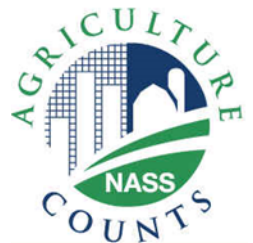
# Use of iPads

- Currently used to collect survey data
- Can also be used to audio/video record data collection for questionnaire evaluation for behavior coding in CARI
- Currently using a second person and iPad to video record interview for training and usability purposes
- For behavior coding, no need for second person and iPad

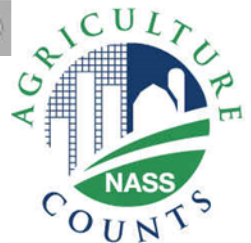
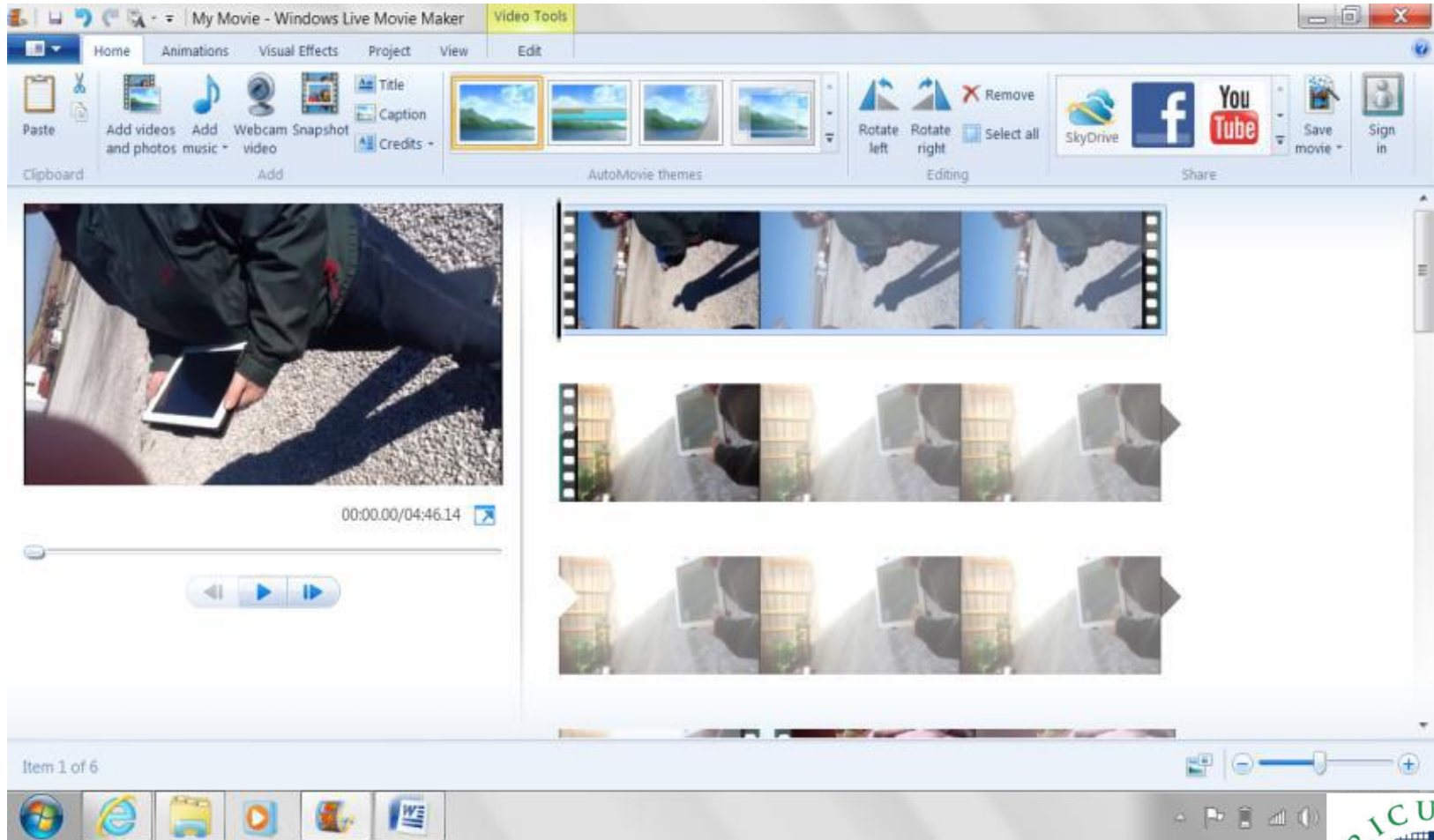


# Experiences with iPads

- First hand account of the interaction between the field enumerator and the respondent.
- Quick transmission of interview recordings from the field to research staff
- Behavior Coding
  - Audio and video record face-to-face interviews
  - Code and analyze using CARl system



# Example Recording





# CARI

← → http://caridev/BCC/BCC\_Coding.aspx?SOURCE=WorkLoadReview&REFID=84f2b905-e971 Behavior Code Cases x

File Edit View Favorites Tools Help

**CARI**  
Interactive Data Access

HOG\_TEST | Hog testing survey 032013 | CATI

<< Previous Next >> Save Reset Mark Case Complete

Coding Question Text Notes Paradata CC QA

**CARI Quarterly Hog Survey**  
Forms Answer Navigate Help

CAR1120000 Appointment NonResponse ELMOComment

POID: 300649230 Respondent

Of the HOGS or PIGS for MARKET  
(Excluding breeding hogs and pigs)

HGMAIN.INVENTORY.SOWGILL	9/21/2012 11:09:39 AM
HGMAIN.INVENTORY.UNDER50	9/21/2012 11:10:24 AM
HGMAIN.INVENTORY.X50_119	9/21/2012 11:10:30 AM
HGMAIN.INVENTORY.X120_179	9/21/2012 11:10:38 AM
HGMAIN.INVENTORY.X180PLUS	9/21/2012 11:10:49 AM
HGMAIN.INVENTORY.VERIFY	9/21/2012 11:11:01 AM
HGMAIN.INVENTORY.OUTOFSTAT...	9/21/2012 11:11:10 AM
HGMAIN.INVENTORY.DEATHS	9/21/2012 11:11:33 AM
HGMAIN.ANYCONTR	9/21/2012 11:11:55 AM

**Categories**

- Interviewer
- Respondent
- Other Actor
- Final

**Codes:** [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]

**Notes:** [ ]

Add Coding Entry Needs Secondary Review Needs Questionnaire Review

Category	1	2	3	4	5	6	7	8	9	10	Notes
Interviewer	ES										
Respondent	CODR										

Reason For Not Coding: [ ]



# Telephone Cognitive Interviews

- Reach a wider population
- Shorter amount of time
- Less cost
- Research staff can conduct interviews



# Experiences with Phone Cognitive Interviews

- 2012 Census of Agriculture form
  - Establishment survey
  - Self-administered - Mail questionnaire
  - Evaluated the first two pages of form (known to have problems)
- Selected forms that were filled out incorrectly
- Mailed respondents a copy of their completed form with a cover letter
- Interviews limited to 30 minutes
- Completed 6 interviews
- Telephone interviews supplemented w/in-person cognitive interviews



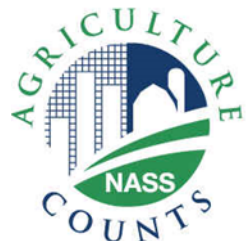
# Lessons Learned

- Constrained by time limit
- Difficult to convey intent
- Difficult to keep respondents focused
- Mode of original survey hard to administer over phone
- Setting affects quality of interview



# Alternatives to Traditional Cognitive Interviews

- Important for several reasons
  - Cost
  - Distance to our respondents
  - Time constraints
- Feedback?
- Comments?
- Questions?



# Contact Information

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